

**PSYCHOLOGY 9698
GCE A/AS Level
2007**

IMPORTANT NOTICE

University of Cambridge International Examinations (CIE) in the UK and USA

University of Cambridge International Examinations accepts entries in the UK and USA only from students registered on courses at CIE registered Centres.

UK and USA private candidates are not eligible to enter CIE examinations unless they are repatriating from outside the UK/USA and are part way through a course leading to a CIE examination. In that case a letter of support from the Principal of the school which they had attended is required. Other UK and USA private candidates should not embark on courses leading to a CIE examination.

This regulation applies only to entry by private candidates in the UK and USA. Entry by private candidates through Centres in other countries is not affected.

Further details are available from Customer Services at University of Cambridge International Examinations.

You can find syllabuses and information about CIE teacher training events on the CIE Website (www.cie.org.uk).

PSYCHOLOGY

GCE Advanced Subsidiary Level and GCE Advanced Level 9698

CONTENTS

	<i>Page</i>
Introduction	1
Syllabus Aims	3
Assessment Objectives	4
Scheme of Assessment	5
Subject Content	8
Resource List	17
(Appendix) Notes for Teachers	19

NOTE

Copies of syllabuses, past papers and Examiners' Reports are available on CD ROM and can be ordered using the Publications Catalogue, which is available at www.cie.org.uk under 'Qualifications & Diplomas' – 'Order Publications'.

INTRODUCTION

This syllabus aims to encourage an interest in and appreciation of psychology through an exploration of the ways in which psychology is conducted. This exploration includes:

- a review of a number of important research studies;
- an opportunity to look at the ways in which psychology has been applied.

The syllabus uses a wide variety of assessment techniques that will allow students to show what they know, understand and are able to do. The emphasis is on the development of psychological skills as well as the learning of psychological knowledge.

Certification Title

These syllabuses will be shown on a certificate as

GCE Advanced Subsidiary Psychology, or

GCE Advanced Level Psychology.

Rationale for syllabus design

Themes

The syllabus contains three themes that should inform all aspects of the student's progress on the course. The theme of **methodology** encourages the student to evaluate the psychology for the methods that are used. The theme of **perspectives** encourages the student to look at how psychology informs our view about human experience and action. The theme of **ethics** encourages the student to look at the impact of psychology on the participants of psychological studies, and the impact of psychology on everyday life.

Core Content

Defining the core content of psychology is a topic that can stimulate endless debate. The growth of the subject over the last hundred years has continually widened the areas of interest and the body of knowledge associated with these areas. This means that students must either specialise before they have an overview of the subject, or else deal with all the areas in a superficial way. This syllabus deals with this problem by requiring the student to cover all the major areas of psychology, and to do this by sampling the research rather than over-viewing it all. Therefore, the syllabus prescribes the studies that must be covered during the course. This design allows the subject to be studied in depth while retaining breadth and balance.

The Core Studies have been selected to reflect five core areas of Psychology. The studies are arranged under the headings of:

Cognitive Psychology

Social Psychology

Physiological Psychology

Developmental Psychology

The Psychology of Individual Differences.

There will be four studies in each section and they are listed in the Subject Content (below). These studies will be replaced periodically to maintain a freshness of material and approach. The syllabus document will indicate when a change has occurred.

The Core Studies have been chosen to allow students to demonstrate:

- a) *knowledge* and *understanding* of approaches to the solution of problems;
- b) an ability to *analyse* and to *evaluate* some of the cultural, social and ethical implications of psychology;
- c) an ability to *apply* psychological concepts to practical problems and to everyday life.

The studies illustrate a wide range of methodologies used in psychology. By exploring the relationship between the content of the study and the methodology of the research, the student will gain an insight into the interconnections between different fields, areas and topics in psychology. Some of the studies are relatively contemporary, though many are classics in their field. All the studies have been chosen because they raise contemporary issues, even if the original work was conducted some time ago. For example, the work of Thigpen and Cleckley on multiple personality was published in 1954, yet the topic is still under discussion and this original study illustrates all the issues in the continuing debate. Likewise, the study by Milgram on obedience to authority, published in 1963, never fails to challenge the way we think about ourselves and our behaviour. The range of studies is balanced to show how psychological theory and practice develop, how the past informs the present, and how the present is used to re-evaluate the past. The studies have also been chosen to show the widest possible range of methods used in psychology.

The studies have been selected on the basis of the opportunity which they present for students to explore the full range of issues in psychology, including research design, ethics, the rationale for research, and the application of findings. It is hoped that they will also be seen as relevant to contemporary society and provoking of stimulating debate.

Specialist Choices

A traditional approach in the study of psychology is to progress to greater and greater specialism, and, in so doing, narrow the range of study. This syllabus is designed to increase the specialism of study yet retain a breadth of coverage. Over the past few years, a number of applied areas have developed in psychology that have sought to integrate the knowledge derived from a variety of psychological sources and apply it to specific problems. The syllabus takes this approach and encourages the student to look at how psychological theory has been applied. This involves the student in integrating the various areas of the subject, and seeing the connections and contrasts between them.

The chosen applied areas are Education, Health, Organisations, Environment and Abnormality. These applied areas have been chosen because of the range of literature available for each, and because of the breadth of psychology that is relevant to each area. Within each chosen applied area, students will be required to look at the core areas of psychology: cognitive psychology, social psychology, physiological psychology, developmental psychology and the psychology of individual differences. The relationship between the applied areas and the core areas is shown below in the subject content.

In contrast to the first part of the course which prescribes precisely which studies must be looked at, this part of the course only prescribes the issues. It is expected that students will study specific examples of work in their chosen areas, though this need not be an overall coverage of the contemporary literature. It is also expected that, wherever possible, students will apply the core studies to the chosen specialist area. Students are encouraged to study sufficient psychological research to be able to illustrate the issues in the syllabus and evaluate them.

SYLLABUS AIMS

The aims of the Advanced Subsidiary and Advanced Level syllabuses are set out below and describe the educational purposes of a course in Psychology for these examinations. The aims are not listed in order of priority.

The aims are:

- To provide an introduction to psychological concepts, theories, research findings, and applications.
- To create an understanding of the range and limitations of psychological theory and practice.
- To encourage students to explore and understand the relationship between psychological findings and everyday life.
- To develop skills of analysis, interpretation, application and evaluation.
- To promote an appreciation and understanding of individual, social and cultural diversity.
- To develop an understanding of ethical issues in psychology including the moral and ethical implications of psychological research.
- To explore and understand the relationship between psychological findings and social, cultural and contemporary issues.
- To study psychological principles, perspectives and applications.
- To encourage the development of the skill of communication.

ASSESSMENT OBJECTIVES

An assessment objective is an intended area of competence within the subject. There are two assessment objectives in Psychology:

Knowledge and Understanding

Candidates should be able to:

- demonstrate knowledge and understanding of psychological theories, terminology, concepts, studies and methods in the areas of cognitive, social, physiological and developmental psychology, and the psychology of individual differences;
- express of knowledge and understanding in a clear and effective manner.

Analysis, Evaluation and Application

- analyse and evaluate psychological theories, terminology, concepts, studies and methods in the areas of cognitive, social, physiological and developmental psychology, and the psychology of individual differences;
- apply psychological theories, concepts and studies to practical situations, everyday life and to the experience of the student.

Knowledge and Understanding

Knowledge of psychology is an essential outcome of a psychology course, and it is a credit-worthy skill to be able to demonstrate that knowledge.

Understanding is the skill of interpreting what the knowledge means. For example, a description of the study by Bandura *et al* that includes details of the experimental procedure and the results represents psychological knowledge. On the other hand, the meaning of these results which refers to the imitation of aggressive behaviour and how this can be inferred from the results represents understanding.

The skills of knowledge and understanding are allocated 50% of the available marks.

Analysis, Evaluation and Application

Analysis is the ability to express information and ideas in a clear and accurate style. It is also the ability to identify key points in a study and see their relationship to other studies and theories, and also the ability to make valid generalisations. In the example above, one of the key points is the passive nature of learning which can be related to Learning Theory/Social Learning Theory and behaviourist models of people. Generalisations can be made about a person's control over their behaviour.

Evaluation skills can be identified in terms of the ability to point out methodological errors and consider their effect on the data, the ability to consider the quality of the data, the ability to consider the ethics of the study, and the ability to consider the scientific value of the outcome of the study. In the example above, the candidate can identify the unreal aspects of the laboratory situation that would have structured the behaviour of the children, they can further identify problems of observer reliability, of the ethics of distressing children and exposing them to aggressive role models, and finally of assessing the outcomes of the research.

Application skills, in the context of this syllabus, do not refer to giving descriptions of applied psychology. The skill of application is the ability to consider a psychological finding or theory and apply that information to some new situation or to everyday life. The skill of application can also be shown by the ability to consider a new research finding and apply it to existing psychological theory. In the example, application can be demonstrated by relating contemporary concern over the amount of violence on television to social learning theory.

The skills of analysis, evaluation and application are allocated 50% of the available marks.

SCHEME OF ASSESSMENT

Advanced Subsidiary Qualification

Paper	Type	Duration	Number of Questions	Maximum mark	Weight (% of total marks for syllabus)
1	Short answer and structured response questions	1 hour 30 mins	Section A: 15 compulsory short answer questions Section B: 1 from choice of 2 structured response questions	100	50
2	Short answer and structured essays	1 hour 30 mins	Section A: 5 compulsory short answer questions Section B: 1 from a choice of 3 structured essays	50	50

Advanced Level Qualification

Paper	Type	Duration	Number of Questions	Maximum mark	Weight (% of total marks for syllabus)
1	Short answer and structured response questions	1 hour 30 mins	Section A: 15 compulsory short answer questions Section B: 1 from choice of 2 structured response	100	25
2	Short answer and structured essays	1 hour 30 mins	Section A: 5 compulsory short answer questions Section B: 1 from a choice of 3 structured essays	50	25
3	Short answer and structured essays	3 hours	Choice of 2 Specialist Options from 5. <i>For each Option chosen;</i> Section A : 1 short answer Question from choice of 2 Section B: 1 structured essay from a choice of 2	70	50

Papers 1 and 2 for Advanced Level are the same as Papers 1 and 2 for the Advanced Subsidiary qualification.

Papers 1 and 2 must be taken at the same examination session.

At Advanced Level, candidates need not take Paper 3 at the same examination session as Papers 1 and 2.

The Advanced Subsidiary qualification (Papers 1 and 2) will be available for examination in the June and November examination session. The Advanced Level (Papers 1, 2 and 3) will be available in the June and November examination session.

Description of Papers

Paper 1, The Core Studies 1

This paper will consist of short answer and structured response questions and will be assessed by means of an examination of 1 hour 30 minutes duration.

The paper will examine candidates' knowledge and understanding of the core studies. It will also examine their ability to make evaluative points about the studies and their ability to see the studies in the wider perspective of psychological concepts and methods.

In particular candidates will be asked questions about:

- the information in the studies
- the methods used in the studies
- the way the results are analysed and presented
- the conclusions that can be drawn from the studies
- the context of the studies
- the general psychological issues illustrated by the studies
- evaluations of all of the above

The examination paper will be made up of two parts:

Part A: 15 compulsory short answer questions (60%)

Part B: A choice of 1 from 2 structured essays (40%)

Paper 2, The Core Studies 2

This paper will consist of short answer and structured essay questions and will be assessed by means of an examination of 1 hour 30 minutes duration.

This paper will examine how well candidates can draw out and apply the themes and perspectives in the course to the core studies. Candidates will be asked to make comparisons and distinctions between a number of core studies as well as placing them within the broader context of general debates within psychology.

A summary of the themes and perspectives relevant to this unit is given in the list below.

Themes and perspectives:

- application of psychology to everyday life
- ecological validity
- ethics
- ethnocentric bias
- individual and situational explanations
- nature and nurture
- psychometrics
- qualitative and quantitative measures
- reductionism
- reliability and validity
- social control
- usefulness of psychological research

- approaches in psychology
 - cognitive
 - developmental
 - individual differences
 - physiological
 - social

The examination paper will be made of two parts:

Part A: 5 compulsory short answer questions (40%)

Part B: A choice of 1 from 3 structured essays (60%)

Paper 3, The Specialist Choices

Candidates are required to choose **two** applied areas of psychology, from a list of **five**, to study for this component. The paper contains five specialist choice options and candidates are required to answer questions from the two options they have studied. The questions for each specialist choice option are divided into **two** Sections:

Section A requires candidates to answer **one** question (short answer) on a particular topic area. There is a choice of two topic areas.

Section B requires candidates to write **one** structured essay from a choice of two questions.

This means that during the whole paper, candidates will answer **two** sets of short answer questions and **two** structured essays.

Specification Grid

Assessment Objective	Paper 1	Paper 2	Paper 3	Total
Knowledge/Understanding	15	10	25	50
Analysis/Evaluation/Application	10	15	25	50
Total % Weighting	25	25	50	100

SUBJECT CONTENT

Themes

a) Methodology

Candidates should:

- be aware of the range of psychological methods;
- be able to evaluate the methods in terms of their practical and theoretical implications;
- be aware of the problems of operationalising concepts in psychology;
- be aware of issues of design, sampling, control.

b) Perspectives

Candidates should:

- be aware of the range of approaches in psychology: cognitive, social, physiological and developmental psychology, and the psychology of individual differences;
- be aware of the issues surrounding reductionism, determinism and the nature/nurture debate;
- be able to consider the social, moral and cultural context of psychology.

c) Ethics

Candidates should:

- be aware of the ethical guidelines that should structure psychological research;
- be able to evaluate the application of these guidelines;
- be able to consider the moral and ethical implications of psychological research.

Advanced Subsidiary

The Core Studies, which are listed below, are easily accessible examples of psychological investigations. Candidates are encouraged to explore the core content through a detailed study of the background, content and, where appropriate, methodology of these investigations. It is anticipated that the selection of studies will be adjusted for future years of the course. Any changes will be indicated in the yearly syllabus publication and will be published two years prior to the examination.

The studies have been selected to represent the five core areas of psychology. Any group of psychologists would arrive at different lists of important studies, and it is not proposed that the chosen studies are the most important studies, or the best studies or even the most influential studies. They are all significant studies and, together, they represent a balanced sample of the research interests and methods employed by psychologists. Some of the studies are historical, for example Freud's case study of 'Little Hans', and help to place the development of psychological concepts in a cultural and historical context. Other studies, such as the study of family relationships by Hodges and Tizard, are very contemporary. This range is balanced to show how psychological theory and practice develop, and how the past informs the present, and how the present is used to re-evaluate the past. The studies have also been chosen to show the widest possible range of methods used in psychology.

Cognitive Psychology

Core Study Material:

Loftus, E. and Palmer, J. (1974) *Reconstruction of automobile destruction*. **Journal of Verbal Learning & Verbal Behaviour**. **13**. 585-589

Deregowski, J. (1972) *Pictorial perception and culture*. **Scientific American**. **227**. 82-88

Baron-Cohen, S., Leslie, L.M. and Frith, U. (1985) *Does the autistic child have a theory of mind?* **Cognition** **21**. 37-46

Gardner, R. and Gardner, B. (1969) *Teaching Sign Language to a Chimpanzee*. **Science**. **165**. 664-672

Candidates should be able to:

- describe and evaluate the cognitive approach in psychology;
- consider the issues around memorising material, and the problems of eyewitness testimony;
- consider the explanations of cultural differences in cognitive performance;
- understand the central issues in the area of autism and the theory of mind;
- understand basic characteristics of language;
- evaluate the usefulness of applying the results of animal research to people;
- understand the role of reinforcement in learning;
- consider the implications of research in cognitive psychology.

Social Psychology

Core Study Material:

Milgram, S. (1963) *Behavioural study of obedience*. **Journal of Abnormal & Social Psychology**. **67**. 371-378

Haney, C., Banks, C. and Zimbardo, P. (1973) *A study of prisoners and guards in a simulated prison*. **Naval Research Reviews**. **30**. 9. 4-17

Piliavin, I., Rodin, J. and Piliavin, J. (1969) *Good Samaritanism; an underground phenomenon?* **Journal of Personality & Social Psychology**. **13(4)**. 289-299

Tajfel, H. (1970) *Experiments in Intergroup Discrimination*. **Scientific American**. **223**. 96-102

Candidates should be able to:

- describe and evaluate the social approach in psychology;
- evaluate studies of social interaction in the light of their social and cultural context;
- consider the concepts of conformity, obedience, and affiliation;
- consider the ways in which behaviour is structured by social roles and other situational variables;
- understand the effects of intergroup discrimination;
- discuss the issues around ethnocentrism;
- consider the implications of research in social psychology.

Developmental Psychology

Core Study Material:

Samuel, J. and Bryant, P. (1984) *Asking only one question in the conservation experiment*. **Journal of Child Psychology & Psychiatry**. **25**. 315-318

Bandura, A., Ross, D. and Ross, S. (1961) *Transmission of aggression through imitation of aggressive models*. **Journal of Abnormal & Social Psychology**. **63**. 375-382

Hodges, J. and Tizard, B. (1989) *Social & family relationships of ex-institutional adolescents*. **Journal of Child Psychology & Psychiatry**. **30(1)**. 77-97

Freud, S. (1909) *Analysis of a phobia of a five-year old boy*. **Pelican Freud Library**. **Vol. 8**. Case Histories 1

Candidates should be able to:

- describe and evaluate the developmental approach in psychology;
- demonstrate knowledge and understanding of structuralist, psychoanalytic and behavioural theories of development;
- consider the criticisms of child development research and of the conclusions that have been drawn from such research;
- understand the implications of the research for child care practices;
- consider the concept of attachment;
- evaluate the research on the effects of early childhood experience;
- consider the implications of research in developmental psychology.

Physiological Psychology

Core Study Material:

Schachter, S. and Singer, J. (1962) *Cognitive, social & physiological determinants of emotional state*. **Psychological Review**. **69**. 379-399

Dement, W. and Kleitman, N. (1957) *The relation of eye movements during sleep to dream activity*. **Journal of Experimental Psychology**. **53(5)**. 339-346

Sperry, R. (1968) *Hemisphere disconnection & unity in consciousness*. **American Psychologist**. **23**. 723-733

Raine, A., Buchsbaum, M. and LaCasse, L. (1997) *Brain abnormalities in murderers indicated by positron emission tomography*. **Biological Psychiatry**. **42 (6)**. 495-508

Candidates should be able to:

- describe and evaluate the physiological approach in psychology;
- demonstrate an understanding of attempts to explain emotional experience using both physiological and alternative approaches;
- describe some of the findings that have arisen from research into sleep states;
- show awareness of the basic structure and function of the nervous system;
- evaluate the attempt to explain behaviour and experience in terms of physiological changes;
- consider some of the issues around the concept of localisation of function;
- consider some of the ways that psychologists can investigate the functions of the brain;
- consider the implications of research in physiological psychology.

The Psychology of Individual Differences

Core Study Materials:

Gould, S. J. (1982) *A Nation of Morons*. **New Scientist (06/05/1982)**. 349-352

Hraba, J. and Grant, G. (1970) *Black is beautiful; A re-examination of racial preference & identification*. **Journal of Personality & Social Psychology**. **16**. 398-402

Rosenhan, D. (1973) *On being sane in insane places*. **Science**. **179**. 250-258

Thigpen, C. and Cleckley, H. (1954) *A case of multiple personality*. **Journal of Abnormal & Social Psychology**. **49**. 135-151

Candidates should be able to:

- describe and evaluate the individual differences approach in psychology;
- demonstrate a knowledge of some cultural variations in behaviour and experience;
- evaluate the psychometric approach;
- consider the issues involved in the construction and application of psychometric tests;
- consider the ethnocentric nature of Western psychology;
- understand the difficulties involved in defining abnormality and normality;
- consider the practical, theoretical and ethical consequences of applying definitions of abnormality;
- understand that explanations of mental disturbance have arisen from more than one perspective;
- evaluate attempts to gather empirical evidence on cases of mental and behavioural disturbance;
- consider the implications of research in the psychology of individual differences.

Advanced Level

The Specialist Choice Options build on the work in the first part of the course and explore how all five core areas of psychology have been applied in a range of contexts. Over the past few years, a number of areas have developed in psychology that have sought to integrate the knowledge derived from a variety of psychological sources and apply it to specific problems. The syllabus takes this approach and encourages the student to look at how psychological theory has been applied. This involves the student in integrating the various areas of the subject, and seeing the connections and contrasts between them.

The areas chosen are Education, Health, Environment, Organisations and Abnormality. These areas have been chosen because of the range of literature available for each, and because each area draws on the five core areas of psychology.

In contrast to the first part of the course, which prescribes precisely which studies must be looked at, this part of the course only prescribes the issues. It is expected that students will study specific examples of work in their chosen areas, though this need not be an overall coverage of the contemporary literature. It is also expected that, wherever possible, students will apply the core studies to the chosen specialist area. Students are encouraged to study sufficient psychological research to be able to illustrate the issues in the syllabus and evaluate them.

Candidates are required to study how psychology is applied in **two** of the following areas:

Psychology and Education

Psychology and Health

Psychology and Environment

Psychology and Abnormality

Psychology and Organisations

Psychology and Education

- a) Assessing educational performance:
 - types and limitations of psychometric tests
 - types of performance assessments at different ages
 - implications of assessment and categorisation

- b) Individual differences in educational performance: cultural diversity and gender issues:
 - differences in educational performance
 - explanations for differential educational performance
 - strategies for improving educational performance

- c) Special educational needs:
 - definitions, types and assessment of special educational needs (including gifted children)
 - causes and effects of one specific learning difficulty or disability
 - strategies for educating children with special needs

- d) Perspectives on learning:
 - behaviourist applications to learning
 - humanistic applications to learning
 - cognitive applications to learning

- e) Learning and teaching styles:
 - definitions, theories and measurement of learning styles
 - individual differences in learning styles
 - improving learning effectiveness (study skills)

- f) Motivation and educational performance:
 - definitions, types and theories of motivation
 - improving motivation
 - motivation issues: attribution theory and learned helplessness

- g) Disruptive behaviour in school:
 - types, explanations and effects of disruptive behaviours
 - causes and effects of one disruptive behaviour
 - corrective and preventive strategies

- h) Design and layout of educational environments:
 - physical features of learning environments
 - effects of physical features on performance and feelings
 - creating better environmental conditions for learning

Psychology and Health

- a) The patient-practitioner relationship:
 - practitioner and patient interpersonal skills
 - patient and practitioner diagnosis and style
 - using and mis-using health services

- b) Adherence to medical advice:
 - examples of and reasons why patients don't adhere
 - measuring adherence/non-adherence
 - improving adherence

- c) Pain:
 - types and theories of pain
 - measuring pain
 - managing and controlling pain

- d) Stress:
 - causes/sources of stress
 - measures of stress
 - management of stress

- e) Substance use and abuse:
 - defining substance use and abuse
 - theories of substance abuse (only one substance)
 - preventing and quitting substance abuse (only one substance)

- f) Health promotion:
 - methods for promoting health
 - health promotion in schools, worksites and communities
 - promoting health of a specific problem

- g) Lifestyles and health behaviour:
 - determinants of health enhancing behaviours
 - health belief models
 - developmental, cultural and gender differences in health behaviours

- h) Health and safety:
 - definitions, causes and factors affecting accidents
 - personality and accident proneness
 - reducing accidents and promoting safety behaviours

Psychology and Organisations

- a) Selection of people for work:
 - personnel screening and psychometric testing
 - types and pitfalls of selection interviews
 - personnel selection decisions

- b) Human resource practices:
 - job analysis and job analysis techniques
 - performance appraisal: techniques, administration and problems
 - reward systems

- c) Group behaviour in organisations:
 - group decision-making strategies and pitfalls
 - team roles and team building
 - sources and management of group conflict

- d) Interpersonal communication systems:
 - types of communication channel and influences on it
 - communication networks and cycles
 - improving communication flow

- e) Leadership and management:
 - theories of leadership
 - leadership/management styles
 - leader – worker interaction and satisfaction

- f) Motivation to work:
 - theories of motivation
 - improving motivation
 - motivation and performance

- g) The quality of working life:
 - work stress: causes and effects
 - measuring job satisfaction
 - increasing job satisfaction and quality of working life

- h) Organisational work conditions:
 - physical and psychological conditions of work environments
 - temporal conditions of work environments
 - reducing negative effects of work environments for individuals

Psychology and Environment

- a) Environmental stress; noise:
 - definitions and sources
 - negative effects on performance, social behaviour and health
 - positive uses of sound (music)
- b) Climate and weather:
 - definitions; types; climatological determinism
 - effects on performance and social behaviour (one aspect of climate/weather only)
 - effects on health such as seasonal affective disorder
- c) Density and Crowding:
 - definitions, measurements and animal studies
 - effects on human health, social behaviour and performance
 - preventing and coping with effects of crowding
- d) Crowd behaviour:
 - definitions and types of crowds
 - crowd behaviour; crowds in emergency situations
 - controlling crowds and preventing problems
- e) Natural disaster and technological catastrophe:
 - definitions, characteristics and causes
 - examples of, behaviours during, and effects on individuals
 - psychological intervention before and after events
- f) Personal space and territory:
 - definitions, types and measures
 - effects and consequences of invasion
 - defending territory and space
- g) Architecture and behaviour: housing design and urban renewal
 - theories and effects of urban living on health and social behaviour
 - urban renewal and housing design
 - community environmental design
- h) Environmental cognition:
 - definitions, measures, errors and individual differences in cognitive maps
 - designing better maps; wayfinding
 - the scenic environment

Psychology and Abnormality

- a) Classifying and diagnosing abnormality:
 - defining and diagnosing (classifying) abnormality
 - problems in defining and diagnosing abnormality
 - detailed study of definition and classification applied to **one** abnormality

- b) Models of abnormality:
 - historical explanations of abnormality
 - contemporary theories and assumptions of models
 - treatments derived from models

- c) Cultural, societal and individual differences in abnormality:
 - inter- and intra-cultural differences in abnormality
 - social class differences in abnormality
 - gender differences in abnormality

- d) Abnormal affect:
 - types and assessment of abnormal affect (for example, depressive states, seasonal affective disorder)
 - effects of abnormal affect on behaviour and experience
 - overcoming effects of abnormal affect

- e) Abnormal affect due to trauma:
 - types and causes of trauma response (for example, post traumatic stress disorder, amnesia, fugue)
 - effects of trauma on behaviour and experience
 - coping with and reducing effects of trauma

- f) Abnormal learning:
 - types and assessment of learning abnormalities (for example, autism, dyslexia, attention-deficit hyperactivity disorder)
 - causes of learning abnormalities
 - overcoming learning abnormality

- g) Abnormal adult development:
 - types and causes of degenerative abnormality (for example, Alzheimer's, Korsakoff's)
 - effects of degenerative abnormality on experience and behaviour
 - reducing effects of degenerative abnormality

- h) Abnormal avoidance and need:
 - types and explanation of abnormal avoidance (for example, phobia, elective withdrawal)
 - types and explanation of abnormal need (for example, kleptomania, compulsive gambling)
 - overcoming abnormal avoidance and need

RESOURCE LIST

The Core Studies

The Core Studies are the prescribed content for Papers 1 and 2, and teachers will need either the full studies or detailed summaries of them. There are two texts which are particularly useful in providing the necessary teaching material:

Gross, R. (1999) *Key Studies in Psychology, 3rd Edition*. Hodder & Stoughton. 034072045X

This book provides a comprehensive account of many (though not all) of the required studies. Some are reproduced in full and others reduced to manageable proportions. The text also contains full evaluations and background notes, and is recommended as being made available to students for reference if it is not selected as a main reader for the course.

Banyard, P. and Grayson, A. (2000) *Introducing Psychological Research; seventy studies that shape psychology, 2nd Edition*. Palgrave. 0333912519

This book contains summaries and major details relating to all of the prescribed studies and suggests tasks arising from the findings. It is comprehensive in reference and accessible in style.

Papers 1 and 2 are designed so that students do not need to wade through vast tomes of psychology research in order to seek evidence reinforcing or enlightening aspects of the Core Studies. The examination questions focus on the factual content of the Core Studies and the implications of the findings, so students need to be familiar with the studies and need to be able to evaluate them. Students and teachers, however, often wish to read further around a topic and they may find some of the suggested readings below of use.

Gleitman, H. (1999) *Psychology, 5th Edition*. Norton. 0393973662

Roth, I. (1990) *Introduction to Psychology*. Taylor and Francis Books. 0863771394

Wade, C. and Tavis, C. (1999) *Psychology, 5th Edition*. Pearson Higher Education. 0321004248

Gross, R. (2001) *Psychology: the Science of Mind and Behaviour, 4th Edition*. Hodder & Stoughton. 034079061X

Hayes, N. (2000) *Foundations of Psychology, 3rd Edition*. Thomson Learning. 1861525893

Hill, G. (1998) *Psychology Through Diagrams*. Oxford University Press. 0199171688

The Specialist Choices

NOTE

It is not necessary to acquire every book on the list. A number of texts overlap options, so the whole list should be reviewed.

Psychology and Education

Banks, S.R. and Thompson, C.L. (1994) *Educational Psychology*. Thomson Learning. 0314044434

Fontana, D. (1995) *Psychology for Teachers, 3rd Edition*. Palgrave. 0333640667

Lefrancois, G. (1999) *Psychology for Teaching, 10th Edition*. Wadsworth. 0534574475

Psychology and Health

Banyard, P. (1996) *Applying Psychology to Health*. Hodder & Stoughton. 0340647566

Brannon, L. and Feist, J. (1999) *Health Psychology, 4th Edition*. Wadsworth. 0534368506

Ogden, J. (2000) *Health Psychology: A textbook, 2nd Edition*. Open University Press. 0335205968

Sarafino, E. (2001) *Health Psychology: Biopsychosocial Interactions, 4th Edition*. Wiley. 0471359408

Sheridan, C.L. and Radmacher, S.A. (1992) *Health Psychology*. Wiley. 0471508527

Psychology and the Environment

Bell, P.A., Fisher, Baum and Greene (2000) *Environmental Psychology, 5th Edition*. Thomson Learning. 0155080644

Gifford, R. (1997) *Environmental Psychology, 2nd Edition*. Allyn & Bacon. 0205189415

Veitch, R. and Arkkelin (1994) *Environmental Psychology*. Prentice-Hall. 0132823519

Psychology and Organisations

Riggio, R. (1999) *Introduction to Industrial and Organisational Psychology, 3rd Edition*. Longman. 0321056876

McKenna, E. (2000) *Business Psychology and Organisational Behaviour, 3rd Edition*. Psychology Press. 0863776671

Greenberg, J. and Baron, R.A. (2000) *Behavior in Organizations, 7th Edition*. Prentice-Hall. 0130850268

Pheasant, S. (1991) *Ergonomics, Work and Health*. Palgrave. 0333489985

Psychology and Abnormality

Davison, G.C. (2000) *Abnormal Psychology, 8th Edition*. Wiley. 0471392219

Gross, R. and Mcilveen, R. (1996) *Abnormal Psychology*. Hodder & Stoughton. 0340679506

Rosenhan, D.L. and Seligman, M.E. (1995) *Abnormal Psychology, 4th Edition*. Norton. 039394459X

Suinn, R.M. (1988) *Fundamentals of Abnormal Psychology, 2nd Edition*. Nelson Hall. 0830410716

General Reading

Banyard, P. and Hayes, N. (1994) *Psychology: Theory and Application*. Nelson Thomas. 0412464403. (Snippets throughout).

Coolican, Harrower, Cassidy, Sharpe *et al* (1996) *Applied Psychology*. Hodder & Stoughton. 0340630922

Spurgeon, P. *et al* (1994) *Elements of Applied Psychology*. Harwood Academic Publishers. 3718654199

APPENDIX

NOTES FOR TEACHERS

The following notes are organised by course component, and there are suggestions for teachers that cover all components of the A Level examination.

Introduction

The syllabus is designed to interest students in psychology so that they wish to continue their study of the subject beyond the end of the course. It is so designed to help students see the implications of their studies for everyday life. We hope they enjoy the course and that the teachers enjoy teaching it. It is hoped that the course will provide enough structure to aid teachers, but also enough latitude for teachers to present specialist areas in the way they find most appropriate.

Teachers might find more general support from teachers' organisations, most specifically The Association for the Teaching of Psychology (ATP). The ATP is mainly concerned with the teaching of psychology in schools and colleges. It arranges events for teachers and produces a range of helpful publications. Teachers are recommended to make contact with the ATP by writing to:

The Association for the Teaching of Psychology
 c/o The British Psychological Society
 St Andrew's House
 48 Princess Road East
 Leicester LE1 7DR
 United Kingdom

PAPER 1 AND PAPER 2, THE CORE STUDIES

These notes for teachers contain the following items:

- Key points for Core Studies
- Examination questions
- Notes on one way of teaching a key study
- Example summary of a Core Study: Piaget's Cognitive Approach.

KEY POINTS FOR CORE STUDIES

The best starting point for teaching is to consider the aims of the course. These **aims** can be achieved by asking students to consider a number of key **questions** about each study. These questions have clear answers that can be found in the studies. It is also helpful to consider some speculative **what if ...?** questions that do not have a definite correct answer but will encourage students to think around the study. Students should also develop skills of **evaluation** and some evaluative questions are given in the final section below.

Aims

The aim of this course is to encourage an appreciation of the wide range of psychological ideas and activities. This central aim is assessed by looking at the following features of student work:

- knowledge
- understanding
- analysis
- evaluation
- application
- methodological awareness.

Questions

Students should be able to consider the following questions about each of the Core Studies:

- What conclusions can we draw from the study?
- What are the key terms?
- How were the variables operationalised?
- Does the study contravene any ethical guidelines?
- How was the data collected?
- What do the results mean?
- How were the results analysed?
- What are the implications of the study?
- What are the limitations of the methodology?

What if ...?

Students would also find it useful to consider some of the following questions:

- What if the sample was different?
- What if the location was different?
- What if the measurement was different?
- What if the procedure was different?
- What if the procedure was ethical?

Evaluation

Evaluation is always difficult for students, though it might be helpful to develop this skill by considering some of the following questions:

- Can we relate the study to everyday life?
- Is the study ethnocentric?
- Does the study contribute to human welfare and understanding?
- Is the study any use?
- What is the quality of the evidence?
- How was the study affected by the social issues at the time it was conducted?

EXAMINATION QUESTIONS

The questions that can be set in an examination are limited by a number of factors:

(a) *Syllabus content*: obvious as this may sound, it is worth remembering that the Examiners can only set questions on material that appears in the syllabus. So, for Paper 1 and Paper 2, they can only set questions on material that appears in the Core Studies and can only use the terms and concepts that are mentioned in the syllabus document;

(b) *Syllabus aims*: a syllabus is designed to encourage the education of the student. It is not the aim to create dismay and distress, or to produce trick questions to fool students. The aim of examinations is to allow students to show what they know and what they can do. The questions are designed to be understandable, fair and appropriate. It is hoped that they will be challenging, but not indecipherable;

(c) *Assessment objectives*: the syllabus very clearly defines the skills for which marks will be awarded, and the proportion of marks that will go to each skill.

To help you in your preparations for the course, a list of the possible question areas for Paper 1 and Paper 2 is given below. Questions on these topics are all appropriate within the structure of the syllabus, though some will provide more question possibilities than others. The first six questions are the major themes, and it is likely that one or two of these will be addressed every year. The list of issues are some of the most common themes that run through psychology and are mentioned in the syllabus or the studies. These issues can also form the basis for questions.

Possible question areas and key issues

- 1 Ethics: apply guidelines to chosen studies, how could they be improved, were they justified, does it matter, is it possible to conduct ethical work?
- 2 Measurement: operational definitions, alternative definitions, limitations of the measurement, effect of the measurement on the conclusions.
- 3 Take one area: contribution to psychology/knowledge of people/human welfare – possible areas, cognitive, physiological, social etc.
- 4 Contrast two approaches: in terms of methods, findings, usefulness, contribution etc.
- 5 Sample: how chosen, why chosen, limitations of sample, what would be the effects of an alternative sample – adults, children, Black people, number?
- 6 Method type: experiments, observations, case studies, review articles – advantages and disadvantages, alternative methods, relationship between method and theory.

Other important issues

- 1 Everyday life – ecological validity
- 2 Nature and nurture
- 3 Determinism and Reductionism
- 4 Psychometrics
- 5 Laboratory v. field studies
- 6 Usefulness
- 7 Quality v. quantity
- 8 Norms v. Diversity
- 9 Ethnocentrism
- 10 Different types of explanation for the same event, for example, physiological v. developmental v. social explanations of aggression

NOTES ON ONE WAY OF TEACHING A CORE STUDY

Samuel, J. and Bryant, P. (1984) 'Asking only one question in the conservation experiment', *Journal of Child Psychology and Psychiatry*, 25, pp. 315-318.

Introduction for teachers

How much background do the students need to know for a Core Study? This question is a problem for all teachers. If you give the students too little information, they may be unable to answer the examination questions. If you give them too much, then there is a lot of redundant activity for both yourself and the students. The most sensible strategy is to err on the side of caution and give them a little more than you think they need. This means that students are nearly always over-taught. However, there are levels of over-teaching and the aim of this short paper is to try and give a clearer indication of the background that is required for a Core Study.

There are two major issues to bear in mind when preparing your teaching:

(a) what types of question can be asked? These are more limited than you might think, and you can find examples in the Specimen Paper booklet available from the board.

(b) what are the main aims of the study? So, for example, the paper by Samuel and Bryant aims to investigate how children think, and compares their results with those obtained by Piaget.

A consideration of these two issues will help to define what students need to know and understand. This last point is important, because it is not just information that needs to be considered, but also the understandings that go with it.

Introduction for students

The first issue for students to consider is, 'what is a child?' This is not nearly as obvious as it sounds, and one way of addressing this issue is to ask students for a list of the differences between children and adults.

Task One

What are the differences between children and adults?

Likely answers:

noisy	smaller
less articulate	less guarded
more trusting	dreadful fashion sense
easily impressed	narrow tastes, e.g. food
more emotionally unstable	cry in public
more enthusiastic	a sense of wonder
ask unusual questions	more energetic

The fact that children are smaller than adults might seem trivial but it has a big effect on their perceptual view of the world. If you ever go back to somewhere you haven't seen since childhood, you'll be struck at how much smaller it all looks. The aim of this task and discussion is to encourage the student to see the world as a child sees it. You might encourage them to use their memory or their imagination to further explore the child's world.

After the students have considered the differences between adults and children, the next thing to look at is the difficulties psychologists have when they try to investigate the world of the child.

Task Two

What are the methodological problems in attempting to discover how children think and feel?

Likely answers:

- attention span
- ability to express themselves
- differences in the way they think and feel compared to adults
- might not tell
- might be intimidated by adults
- understanding of the task
- sympathy with the task

The aim of this task is to encourage an understanding of the limitations of psychological methods, and hence, psychological evidence. It also gives some insight into the problems that Piaget faced, and the reasons why this particular study was carried out.

Theoretical background

If you think about what students need to know in order to understand the Samuel and Bryant study, then they clearly need to know something about Piaget. However, just because they need to know something about Piaget, it does not mean that they need to know everything about Piaget that appears in the text books. So forget the horizontal decalage, and, when you think about it, you might well agree that a knowledge of the processes of adaptation is not necessary for an understanding of this study. Too much extra detail will only obscure the wonderful simplicity of the ideas.

The key points of background are:

- (a) Piaget suggested that the cognitive world of the child is very different from that of the adult. Children are, in effect, cognitive aliens. This point might well have been covered in Task One.
- (b) Piaget suggested a maturational theory of cognitive development. Children pass through four main stages, each of which is defined by a style of thinking. The stages are sensory-motor (matching actions to sensations), pre-operational (developing ways of manipulating 'mental objects' or symbols), concrete operational (limited by *what is* rather than *what might be*), formal operational (the logic of adult thought).
- (c) Between the ages of 2 and 7 (pre-operational), thinking has four distinguishing characteristics:
 - (i) perceptually egocentric
 - (ii) lack of conservation
 - (iii) unable to mentally reverse an action
 - (iv) it is intuitive.
- (d) The conservation tasks:
 - (i) mass
 - (ii) volume
 - (iii) number.
- (e) Piaget's explanation of why children make the conservation errors.

Task Three

Look at the conservation tasks and imagine you are the child. What are the unusual features of the experimental procedure?

Likely answers:

- it's like a test, but what for?
- is it a trick? (adults often play tricks on children)
- what is this task all about? (we always try and make sense of what is happening to us)
- why ask the question again?

The aim of this task is to allow the students to use their thoughts from the first two tasks to evaluate Piaget's methodology. They might well see the flaw in what he did, and so understand the aim of the Samuel and Bryant study. The more able student will look at the title of the study and crack the whole problem. Piaget did not fully comprehend the cognitive world of the child, and part of his results are due to the way he conducted his studies.

The study

The study itself is almost an anti-climax after the above exercises. The aim is to see whether it is the repetition of the question that encourages children into conservation errors.

The students need to know the following features of the study:

- (a) the **aim** and **hypotheses**
- (b) the **method** – what they did and why
- (c) any **methodological problems** that might arise with this choice of procedure, location, sample etc.
- (d) the **results** – look at the tables and consider what the results mean
- (e) the **conclusions** we can draw from the study.

The results are worth a further note. They provide support for the hypotheses of Samuel and Bryant, but they also provide support for Piaget. The children make fewer conservation errors when only asked one question, and this finding supports Samuel and Bryant. However, the children still make conservation errors in all three conditions of the study, and these errors decline with age, much as Piaget predicts.

A summary of the study is attached to this paper to suggest how much detail the students need to know.

EXAMPLE SUMMARY OF A CORE STUDY: PIAGET'S COGNITIVE APPROACH

Samuel, J. and Bryant, P. (1984) 'Asking only one question in the conservation experiment', *Journal of Child Psychology and Psychiatry*, 25, pp. 315-318.

Introduction

How do children think? Are their thought processes just a scaled down version of adult thought processes, or are they altogether different? Swiss psychologist Jean Piaget carried out some remarkable studies on children that had a powerful influence on our theories of child thought. He argued that children's thinking is qualitatively different from the thinking of adults.

Piaget's theory of cognitive development suggests that children develop their ability to think through a series of maturational stages. In brief, the child progresses through the following stages:

- a) *sensory motor stage* (birth to around 18 months) during which the child is learning to match their senses (what they see and hear, and so forth) to what they can do;
- b) *pre-operational stage* (18 months to about 7 years) during which the child is learning to use symbolism (and language in particular), and is developing some general rules about mental operations;
- c) *concrete operational stage* (7 to around 12 years) during which the child is able to use some sophisticated mental operations but is still limited in a number of ways, for example, they tend to think about the world in terms of how it is, and find it hard to speculate on how it might be;
- d) *formal operational stage* (12 years and above) which is the most sophisticated stage of thinking and is mainly governed by formal logic.

Piaget said that the different quality of thought in these stages can be seen in the errors which children make with certain problems. He devised a number of ingenious tests of child thought to illustrate this different style of thinking. The most famous of these tests concern the pre-operational stage. In this stage Piaget said that children's thought has the following features:

- (i) they are unable to *conserve*. For example, they do not appreciate that if you change the shape of an object it keeps the same mass;
- (ii) they are unable to *reverse* mental operations. If they have seen some action take place, they cannot mentally 'rewind the tape';

- (iii) they rely on their *intuitions* about what they can see rather than on their reasoning;
- (iv) they are *perceptually egocentric*, finding it difficult to imagine a view from any other viewpoint than their own.

An example of one of Piaget's tests is carried out with some plasticine. The child is shown two lumps of plasticine the same shape and size. The adult asks, "Which one is bigger?" and the child replies, "They're both the same." Then, in full view of the child, the adult rolls out one of the lumps of plasticine into a sausage shape. The adult now asks the same question and many pre-operational children answer, "The sausage is bigger." Piaget believes that the child does not realise that the mass of the object stays constant (conserved) even though its shape has changed. If children at this developmental stage were able to 'rewind the tape' of the adult rolling out the clay, if they were able to reverse the adult's actions in their minds, they would realise that the plasticine was still the same size. Because they cannot conserve and cannot mentally reverse the process, the children use their intuition to answer the question. One of the pieces of plasticine **looks** bigger than the other, so they answer that it **is** bigger than the other.

The plasticine example is a test of conservation of mass. Piaget used other tasks to explore number and volume conservation. Number conservation tasks involve lining up two rows of buttons. The rows have the same number of buttons each, and are of equal length, so that each button in one row is directly opposite and level with a button in the other row. The child is asked whether there are more buttons in one row or the other. The experimenter then bunches up one of the rows without removing any buttons. The child is asked again whether there are more buttons in one row than in the other. The child who cannot conserve number answers that the longer row now has more buttons.

Volume conservation tasks are done with two identical beakers each with exactly the same amount of fluid in them. The child is asked if one beaker has more fluid in it than the other, or if they contain the same amount. The fluid from one beaker is then poured into a taller, thinner beaker (or into a shorter, fatter beaker), again without removing any of the liquid. The child is asked the conservation question again, and the non-conserving child answers that there is now more (or less) fluid in the different shaped beaker.

The work of Piaget captured the imagination of developmental psychology and many students mounted expeditions to primary schools armed with plasticine, counters and beakers to try out Piaget's tests. In the 1960s and the 1970s, these tests were thought to give real insight into the qualities and limitations of child thought. However, from the late 1970s onwards, there has been a growing body of evidence that suggests that Piaget underestimated the cognitive abilities of children.

The study

Samuel and Bryant devised their study to see whether children could really conserve after all, and whether the results that people usually obtain when they carry out one of Piaget's tests are due to the structure of the test rather than the limitation of child thought. They were particularly concerned with the way in which the traditional conservation task involved asking the child the same question twice. The traditional Piagetian procedure would start with a question like, "Is there more plasticine in this lump or in this lump or are they the same size?" to which the child would answer, "They're the same size." The experimenter would then deliberately alter the experimental materials in full view of the child (perhaps rolling one of the lumps into a sausage), and then repeat the first question. Now, there are all sorts of reasons for suspecting that some children might interpret this whole procedure as meaning that the experimenter wants them to give a different answer to the question when it is asked for the second time. One such reason (you might think about others) has to do with the fact that children are only usually asked the same question twice when they have got the answer wrong the first time. So repeating the question might be leading the child to believe that "They're the same size" was the wrong answer. In short, Samuel and Bryant were concerned that the failure of some children on the conservation task might be more to do with the demand characteristics of the research procedure (see Orne, 1962) than with their failure to reason logically.

For this reason, they designed a study in which half of their sample of children were only asked the conservation question once, after the materials had been altered by the experimenter. The other half of the sample were asked the conservation question twice, as in the standard Piagetian procedure. If, as they hypothesised, the 'one question' group of children tended to give more correct responses on the task than the 'two question' children, this would suggest that their concerns about demand characteristics were warranted.

Subjects and conditions

252 children from Devon, England, between the ages of 5 years and 8.6 (8 years, 6 months). The sample was divided into four age groups of 63 children each. The mean ages of the four groups were (i) 5.3 (ii) 6.3 (iii) 7.3 (iv) 8.3.

Samuel and Bryant devised three conditions for their study:

- (i) *standard*. They carried out the conservation task in the way that Piaget described, asking the children about the size of the objects before and after the shape was changed;
- (ii) *one judgement*. In this condition, they only asked the children about the size (or number, or volume) of the objects after the transformation;
- (iii) *fixed-array control*. In this condition, the children just saw the objects after they had been changed, and not before.

Children from each age group were allocated to one of the three conditions, giving an independent measures design (each child only performed in one of the conditions), with equal average ages across the three conditions.

The researchers carried out mass, number, and volume conservation tasks with each child. Each child was given four trials with each type of task, and the order of the tasks was systematically varied between the children.

Results

The researchers recorded whether the children made an error in judgement on any of the tasks. An error was recorded when they said that one lump was bigger than the other, or one row had more counters than the other, or one glass had more liquid than the other. The results are summarised in Table 1 and Table 2.

Table 1. Mean errors of judgement for all the tests

(maximum possible error = 12, minimum possible error = 0)

Experimental Condition			
Age	Standard	One Judgement	Fixed Array
5 years	8.5	7.3	8.6
6 years	5.7	4.3	6.4
7 years	3.2	2.6	4.9
8 years	1.7	1.3	3.3

Table 2. Mean errors of judgement for all ages

(maximum possible error = 4, minimum possible error = 0)

Experimental Condition			
Test	Standard	One judgement	Fixed array
Mass	1.5	1.2	1.7
Number	1.5	1.0	1.5
Volume	1.8	1.6	2.5

The researchers carried out a number of sophisticated statistical tests and were able to draw the following conclusions:

- (a) *age*. There was a significant difference between every age group. Each group of children made fewer errors than all the groups that were younger than them;
- (b) *conditions*. The children made significantly fewer errors on the one judgement task than on the other two tasks. The children also made significantly fewer errors on the standard task than the fixed-array task;
- (c) *materials*. The children made fewer errors at the number task than the other two tasks.

Discussion

The study confirms Piaget's observation that children will make errors in the conservation tasks he devised. However, the study also shows that children will make fewer errors in these tasks if the procedure is changed slightly. This shows that the reason for at least some of the errors is to do with the task itself rather than the way children think. Samuel and Bryant conclude that the important question is not whether children possess an intellectual skill, but how and when they decide to apply that skill.

The studies by Samuel and Bryant and other researchers that challenge the original theories of Piaget are sometimes described as having refuted Piaget's ideas. This is very far from the case. Basic insights from Piaget still hold good. Children have different thought processes to adults and these can be seen in the errors they make in cognitive tasks. In the above study, the children made conservation errors in all the conditions, and the frequency of these errors reduced with age. But one message that Samuel and Bryant's work leaves us with is the importance of paying close attention to the details of research procedures, for even minor alterations can have an effect on the results.

From Banyard, P. and Grayson, A. (2000) *Introducing Psychological Research; seventy studies that shape psychology, 2nd Edition*. Palgrave. 0333912519

PAPER 3, THE SPECIALIST CHOICES

Teaching strategy

One way of teaching this course is to take each syllabus point in turn, put it in an appropriate context, maybe look at an example problem and see how psychology can be applied to it. Below is a suggested way of looking at the topic of *adherence to medical advice*. As you read through the material, it can be seen how some of the concepts that are introduced can be used in other areas of the course. General psychological concepts that might have been dealt with when studying the core studies for Paper One and Paper Two can also be used.

This is not meant to define how the course must be taught, but just to suggest one way that it *might* be taught. The important things to keep in mind are the syllabus points for each option and the sample questions.

ADHERENCE TO MEDICAL ADVICE

Contexts

Traditional approaches in psychology

The popular work from social psychology that is described in all introductory text books gives a picture of people as compliant automatons who readily conform to most social pressures and obey authority without much hesitation. The work of Asch, Crutchfield and Milgram is used as evidence to support this pessimistic view. A good discussion of this appears in many books and so does not need to be repeated here. This work is an important psychological context for the problem of adherence to medical advice.

Types of request

One of the issues to consider with adherence to medical advice is the type of behaviour we are asking of someone. In the social psychology studies (see above), the person under study was usually isolated from their friends and, in the Asch studies, asked to carry out simple and transparently pointless tasks. In the Milgram study, they were asked to carry out something very unusual in a very unusual situation. The requests for medical compliance, on the other hand, are usually made in familiar situations and the behaviour can be discussed with friends and family.

The types of request fall into a number of categories:

- (a) requests for short term compliance with simple treatments, for example, "Take these tablets twice a day for three weeks";
- (b) requests for positive additions to lifestyle, for example, "Eat more vegetables and take more exercise";
- (c) requests to stop certain behaviours, for example, "Stop smoking";
- (d) requests for long term treatment regimes, for example, diabetic diet or renal dialysis diet.

A cursory look at these types of request reveals some striking differences and suggests that the problem of adherence to medical advice might be different for the different types of medical request. For example, with the short term requests an effort has to be made for a short time and even then it is unlikely to impose any strain on the way a patient's life is conducted. On the other hand, the dietary requirements for renal dialysis are severe and patients should restrict their fluid intake which not only cuts out drinking alcohol, but also leaves them feeling thirsty and uncomfortable much of the time.

Methods and Data

How compliant are people to health requests, and how reliable is our data?

Developing an accurate picture of adherence to medical advice can be tricky, because the estimates which have been made about whether people conform to their treatment instructions vary widely. This is partly a matter of definition. Taylor (1990), for example, suggested that 93% of patients fail to adhere to some aspect of their treatment regimes, whereas Sarafino (1994) argued that people adhere 'reasonably closely' to their treatment regimes about 78% of the time for short-term treatments, and about 54% of the time for chronic conditions. In other words, the two researchers were using different definitions: Taylor was talking about precise conformity to every detail of the recommended treatment whereas Sarafino was allowing for the way that most people "customise" their treatments to fit in with their own lifestyles, but recognising that they may still be complying with the general features of the treatment.

Sarafino also found that the average adherence rates for taking medicine to prevent illness is roughly 60% for both long-term and short-term regimes, but compliance with a requirement to change one's lifestyle, such as stopping smoking or altering one's diet, was generally quite variable and often very low. There are limits, it seems, to how far people will conform to medical demands if they seem to involve too great a change.

In some conditions the lack of adherence to medical advice is quite dramatic, for example a survey of diabetics by Wing *et al* (1986) reported that 80% of patients administered insulin in an unhygienic manner; 58% of them regularly administered the wrong dose of insulin; 77% tested their urine incorrectly or made incorrect interpretations of the result; 75% did not eat the prescribed foods; and 75% did not eat with sufficient regularity.

Non-adherence to medical advice is not just a Western phenomenon. For example, Barnhoorn and Adriaanse (1992) found a similar problem in India. They interviewed two groups of patients who had completed or not completed a tuberculosis control programme. The researchers found that the two groups were different in a number of ways. One of the most important was social support – people who had completed the tuberculosis control programme were more likely to report that at least one family member helped them in taking anti-tubercular medication. This is just one indication of the way that, in order to be effective, health professionals have to take into account a whole range of personal, relationship and social variables.

Ways of measuring compliance

1. Ask a practitioner to estimate the compliance of their patients – Sarafino suggests that they generally overestimate it.
2. Ask the patient – again you are likely to get an over-estimation because the patients know that they should follow doctor's orders and therefore tend to give biased answers.
3. Pill or quantity counting – count the number of pills left in the bottle and compare it against the number that should be there.
4. Medication-recording dispensers which automatically record when the dispenser is used – expensive and not foolproof.
5. Biochemical tests such as blood or urine – measure the general health of the patient and their adherence to the treatment can be inferred.

All the methods can give us some useful information, but they all contain an element of error.

Psychological explanations

The explanations for problems can come either from research findings or from general psychological concepts that are applied to problems. Some of the explanations will also be useful for other problems, so although there appears to be a long list of explanations, it might well contain items that you have already discussed in other parts of the course.

Communication

Style of communication

A study which had a large impact in terms of teaching health care professionals was described in 1973 by Ley *et al*, who investigated how accurately people remember medical statements. Patients attending a general practice surgery were given a list of medical statements and were then asked to recall them. The same list was also given to a group of students. The statements were either given in an unstructured way, or were preceded by information about how they would be organised. For example, a structured presentation might involve the researcher saying something like, "I'm going to tell you three things: firstly, what is wrong with you; secondly, what tests we will be doing, and thirdly, what is likely to happen to you."

When they were tested to see how much they remembered, Ley *et al* found that structuring the information had made a very clear difference. The patients who had received the information in a clearly categorised form remembered about 25% more than those who had received the same information in an unstructured way. The students, who were more used to learning information, were about 50% better if they received categorised information than if it was unstructured. The clear implication of this study is that giving people a means of processing or coding information can help them to store it more effectively, which suggests that practical benefits, in terms of remembering what the doctor said, can be achieved by applying levels of processing approaches in real-life settings.

In a further study in this area, Ley (1978) undertook a study of memory for medical information. After people had visited the doctor, they were asked what the doctor had instructed them to do. This would be compared with a record of what had actually been said to them, and the differences were noted.

Ley found that people were quite inaccurate in remembering medical information. In general, patients remembered about 55% of what their doctor had said to them. But the inaccuracies were not random ones. In particular, Ley found that patients:

- remembered the first thing that they had been told well (the primacy effect);
- did not improve their memorising as a result of repetition – it did not matter how often the doctor repeated the information;
- remembered information which had been categorised (like, say, which tablets they should be taking) better than information which was more general;
- remembered more than other patients if they already had some medical knowledge.

Each of these findings could be deduced from existing psychological knowledge about memory processes. In a follow-up to the study, Ley prepared a small booklet giving advice to doctors on how to communicate more clearly with their patients. Patients whose doctors had read the booklet recalled on average 70% of what they had been told, which was a significant increase on the previous figure.

Models of decision making and health behaviour

For example, the Health Belief Model.

This model was originally proposed by Rosenstock in the mid sixties and later modified by Becker. According to the health belief model, the likelihood that individuals will take preventive action depends directly on two assessments that they make:

- (i) evaluating the threat;
- (ii) cost-benefit analysis.

There are several factors that can influence a person's perceived threat of illness, including: perceived seriousness, perceived susceptibility, and cues to action. Also likely to affect this assessment are demographic variables, socio-psychological variables and structural variables.

The cost-benefit assessment looks at whether the perceived benefits exceed the perceived barriers. The barriers might be financial, situational (difficult to get to a health clinic), social (don't want to acknowledge getting old). The benefits might be improved health, relief from anxiety, and reducing health risks.

The model has attracted a large amount of research and much of it is supportive of the basic theory. However, there is no standard way of measuring the variables in the model such as perceived susceptibility. Also there are a number of health behaviours that do not fit the model, such as habits (for example, teeth brushing).

Behavioural explanations

- (a) The role of habits.
- (b) Imitation, for example, one of the biggest risk factors for smoking in young people is whether their parents smoke.
- (c) Reinforcement, for example, the reinforcement for short term treatment programmes is that you feel better quickly, whereas the reinforcement for long term behavioural changes is far from clear to the individual.

Defence mechanisms

The psychoanalytic approach suggests that we protect our ego by a variety of means, for example, avoidance (smokers are known to avoid information about the harmful effects of smoking), and denial.

Conformity

It is possible to turn the whole problem on its head and see how people fail to comply to medical requests because they are conforming to a variety of social norms, for example, men being 'well hard' and not taking care of their diet.

Self-Efficacy

Self-efficacy is a belief that you can perform adequately in a particular situation. Your sense of capability influences your perception, motivation and performance. Bandura (1989) argued that self-efficacy beliefs are important to us, because they are concerned with what we believe we are capable of. If we believe that we are able to engage in certain types of actions successfully, then we are more likely to put effort into doing so, and therefore we are more likely to develop the necessary skills.

Bandura argued that the self-efficacy beliefs which people hold about their own capabilities directly affect how much effort they are prepared to put into achieving things, or completing tasks. If you believe that you are capable of achieving something, you will be likely to stick at it until you succeed. If, on the other hand, you doubt whether you are capable of doing it successfully, you are unlikely to try as hard, and will give up more easily. Because of this, Bandura argued that it is a good thing if people have beliefs about their self-efficacies which are slightly higher than the evidence would suggest, because this encourages them to aim high, and, by doing so, to try harder and so to develop their skills and abilities even further.

We make judgements of self-efficacy primarily on the basis of our achievements. Other sources of these judgements include:

- (a) observations of the performance of others;
- (b) social and self persuasion ('Oh, you know you can do it really');
- (c) monitoring our emotional states, for example, if we are feeling anxious then this would suggest low expectations of efficacy.

Locus of Control

Rotter (1966) suggested that people differ in the way they experience their locus of control – in other words, where the control over events in their life comes from. Some people experience themselves as having an external locus of control, which means they do not feel in control of events: they perceive their lives as being controlled by outside forces. Things happen to them. On the other hand, some people experience themselves as having an internal locus of control, which means they experience themselves as having personal control over themselves and events. They make things happen, rather than passively waiting for them to occur. Rotter went on to argue that locus of control represented a significant factor in psychological well-being, in that feeling unable to control events – a 'victim of circumstance' – is inherently stressful, and can lead to ill-health and psychological problems.

Enhancing adherence to medical advice*Presentation of the information*

- (a) Doctor-patient communication – for example, see above
- (b) Health promotion materials and strategies – cross reference to work on health promotion

Social and motivational influences

For example, recruiting social support such as family involvement in the treatment, or encouraging the patient to join a support group such as weight watchers or a phobics group.

Behavioural methods

Feedback (reinforcement)

Self-monitoring

Tailoring the regime

Increasing sense of control

Prompts and reminders

Contingency contract

Modelling

References

- Taylor, S. (1990) Health Psychology: The Science and the Field. *American Psychologist*. 45. pp. 40-50.
- Sarafino, E. (1994) *Health Psychology: Biopsychosocial Interactions, 2nd Edition*. Wiley.
- Wing, R. R., Epstein, L.H., Nowalk, M.P. and Lamparski, D.M. (1986) Behavioural self-regulation in the treatment of patients with diabetes mellitus. *Psychological Bulletin*. 99. pp. 78-89.
- Barnhoorn, F. and Adriaanse, H. (1992) In search of factors responsible for non-compliance among tuberculosis patients in Wardha district, India. *Social Science and Medicine*. 34. pp. 291-306.
- Pitts, M., and Phillips, K. (eds) (1991) *The Psychology of Health*. Routledge.
- Ley, P., Bradshaw, P. W., Eaves, D. and Walker, C. M. (1973) A Method for Increasing Patients' Recall of Information Presented by Doctors. *Psychological Medicine*. 3. pp. 217-220.
- Bandura, A. (1977) Self-efficacy. *Psychological Review*. 84. pp. 191-215.
- Rotter, J. B. (1966) Generalised expectancies for internal vs. external control of reinforcement. *Psychological Monographs*. 8. (1).